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January 10, 2001

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**VIA COURIER**

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
445 12th St., S.W.  
Washington, DC 20554

Re: MP Communications Partners - E-911 Phase II Implementation Report

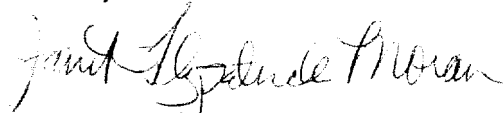
Dear Ms. Salas:

MP Communications Partners ("MP"), by its attorneys, hereby submits its E911 Phase II Implementation Report. An original, four (4) paper copies, and a diskette copy of this report are enclosed.

MP's cellular system is managed by Verizon Wireless, and is operationally integrated with Verizon's cellular systems in the southwest. MP has instructed Verizon to implement E-911 service within MP's service area simultaneously with implementation of E-911 with Verizon-owned or controlled systems in the southwest. Therefore, MP is submitting Verizon Wireless' report filed with the Commission on November 9, 2000.

If you have any questions regarding this matter, please call me at the number above.

Sincerely,



Janet Fitzpatrick Moran

enclosures

cc: Wendy Austrie (hand delivered)  
Jeff Seehorn  
ITS (diskette copy)

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Before The  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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In the Matter of

Revision of the Commission's Rules	)	CC Docket No. 94-102
To Ensure Compatibility With	)	DA 00-2099
Enhanced 911 Emergency Calling Systems	)	

To: Chief, Wireless Telecommunications Bureau

**E911 PHASE II CARRIER REPORT OF VERIZON WIRELESS**

This report is submitted by Cellco Partnership d/b/a Verizon Wireless ("Verizon Wireless"),<sup>1</sup> pursuant to Section 20.18(h) of the Commission's Rules and the *Third Report and Order* in this docket.<sup>2</sup> This report describes Verizon Wireless's current plans for implementing Phase II Enhanced 911 service, including the location-determination technology it plans to deploy and the procedures it intends to use to verify the accuracy of that technology.

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<sup>1</sup> Verizon Wireless's TRS number is 803807. It holds directly, or indirectly through other licensee entities, licenses to provide commercial mobile radio service in most of the United States. This report is filed on behalf of all of the licensees that Verizon Wireless controls. A list of such licensees is on file with the Commission.

<sup>2</sup> See *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Third Report and Order*, 14 FCC Rcd. 17388, ¶¶ 87-89 (1999), *recon.*, *Fourth Memorandum Opinion and Order*, FCC 00-326 (rel. Sept. 8, 2000); Public Notice, "Wireless Telecommunications Bureau Provides Guidance on Carrier Reports on Implementation of Wireless E911 Phase II Automatic Location Identification," DA 00-2099 (released September 14, 2000).

## **Location Technology Plan**

Given the current development status of location technology and the expected availability of commercial products to meet the Phase II mandate, Verizon Wireless plans to deploy network-based solutions. These solutions will be deployed in each of the company's markets where a PSAP requests Phase II location services, is capable of receiving and utilizing the data elements associated with the service, and a mechanism for recovering the PSAP's costs is in place. *See* 47 C.F.R. § 20.18(j).

The network-based solutions Verizon Wireless intends to deploy will not require replacement or upgrades of wireless handsets. The solutions will require upgrades at cell sites and switches. The precise upgrades that will be implemented in each market will depend in part on the particular vendors Verizon Wireless selects and may also depend in part on the particular Phase II system that the PSAP chooses. While the company fully intends to meet the deployment requirements of the rules, the precise implementation schedule will depend on the timing of deployment requests from PSAPs and the commercial availability of the necessary equipment in the large quantities that will be needed.

Verizon Wireless will continue to evaluate handset solutions as alternative location technologies. There are several handset configurations and options. For example, network-assisted GPS products appear to hold significant promise, and it is conceivable that in the future this technology could supplement or replace network-based solutions in certain areas.

Substantial work is still needed for both network and handset based solutions. While network-based solutions appear to be capable of meeting the mandate, further testing is required, particularly in rural areas which present more difficult situations for identifying locations of callers. In addition, Verizon Wireless remains concerned as to whether sufficient product will be available on a timely basis to meet deployment obligations. It intends to work with multiple vendors and the PSAP community to ensure that location technology is promptly available to respond to PSAP Phase II requests.

### **Location Technology Testing**

Verizon Wireless has tested three different network-based solutions in real network environments. TruePosition, Allen Telecom/Grayson Wireless and US Wireless deployed their individual solutions in various locations in several Verizon Wireless markets during 2000 and each has reported their results to the public.<sup>3</sup> These tests were conducted primarily in urban and suburban environments. TruePosition testing in Manhattan was completed last month. Allen Telecom testing was conducted in Lexington, Kentucky during July 2000, and US Wireless testing was conducted in Baltimore and completed in April 2000.

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<sup>3</sup> See press releases at the following web addresses: Allen Telecom: <http://www.geometrix911.com/field.html>; TruePosition: <http://www.trueposition.com/press16.html>; and US Wireless: <http://www.uswcorp.com/USWCMainPages/PressRel/pr62.htm>.

Verizon Wireless will continue testing of these and other similar network-based products through the first quarter of 2001, continuing with testing in rural areas. Verizon Wireless plans to culminate this stage of work by mid-year with an end-to-end test directly to a PSAP. The company also participated in an industry test of SnapTrack's network-assisted GPS technology in Tampa during 1999 and a test of this technology will be conducted in Manhattan in the first quarter of 2001.

Verizon Wireless has to date required use of the location accuracy testing scenarios established by the CDMA Development Group (CDG). The CDG Test Plan formed the basis of an independent assessment of all the geolocation systems that have been evaluated.

Verizon Wireless also contracted with Verizon Labs to provide an independent evaluation of the performance of the following location technologies: Allen Telecom (Lexington, Kentucky); TruePosition (Manhattan). Accuracy was analyzed for each tested scenario by comparing location fixes estimated by the system under test to corresponding ground truth locations. Differential GPS was used to determine ground truth to the extent possible. In cases where GPS did not provide a location, ground truth was calculated by obtaining a GPS fix at a nearby location where GPS could be used, and by subsequently measuring distance and angle at a series of intermediate points, until the desired point was reached. Surveyed points were used in Manhattan where GPS could not be utilized. The ground truth for indoor test locations was established by taking angle/distance measurements at intermediate hops until the desired test location was reached.

Verizon Labs collected and analyzed all performance in conformance with the CDG Test Plan. Verizon Labs critically analyzed the test areas and measurement data, and determined that the technologies, in those test situations, met the requirements of the CDG Test Plan.

Verizon Wireless continues to work on testing methods to determine the accuracy of solutions as they are deployed. These methods will rely on the guidelines set forth in OET Bulletin No. 71 or on alternative methods. Testing methods are expected to evolve as vendors and carriers gain experience with real-world use of network technologies. While Verizon Wireless has been evaluating vendors' capability to provide a workable solution, it anticipates additional efforts will be needed to ensure that PSAPs' new equipment, software and the rest of the E911 network infrastructure will be capable of properly accepting this enhanced location information. A significant amount of work remains to be done by the industry and public safety community in this area.

## **Conclusion**

Verizon Wireless is fully committed to complying with its Phase II (as well as Phase I) E911 obligations. As the Commission has acknowledged in *the Third Report and Order* (at ¶ 89), this report does not constitute a final or irrevocable commitment to the technologies that the company will employ. To the extent that the company makes changes in its implementation plans, it will update the

information in this report within thirty days. Any questions regarding this report should be directed to the undersigned.

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Date: November 9, 2000